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Computers

Ivars Peterson reports from San Jose, Calif., at the Physics Computing '91 conference

Navigating the information swamp

The ubiquitous lab notebook, with its dog-eared corners, stained pages and scribbled entries, may one day give way to an electronic analog that permits not only the recording of data but also the sharing of information among researchers scattered throughout the world. Researchers at Baylor College of Medicine in Houston have developed a sophisticated, computer-based scheme, called the Virtual Notebook System, that allows its user to gather, organize and annotate information selected from a variety of sources.

With such a notebook, a medical researcher interested in the diagnosis of a certain ailment, for example, can readily assemble a package consisting of X-ray images, personal comments, citations, journal articles, news items, electronic-mail extracts and other relevant pieces of information. Moreover, the researcher can instantly share that information with others who use the same system, even if they are thousands of miles away. "You can even write in someone else's notebook," says Kevin B. Long, who directed the project.

Designed to facilitate collaboration, the system's key element consists of software that masks the underlying maze of computers and computer networks that often stands in the way of efficient and convenient communication among researchers working with different computer equipment. The Virtual Notebook System also incorporates a new programming approach for simplifying the indexing and retrieval of information stored in computers. A specially programmed, information-seeking computer — known as the Wide Area Information Server and developed under the direction of Brewster Kahle of Thinking Machines Corp. in Cambridge, Mass. — responds to requests typed in English. Users don't have to know exactly how to find the information they need; nor do they have to remember any special instructions to locate data.

Best suited for groups of researchers already linked by computer networks, the Virtual Notebook System may prove a crucial component of large collaborative efforts. Officials with the Superconducting Super Collider are investigating the system as a possible means of sharing and analyzing experimental data when the accelerator is eventually completed.